

Remarks

In the present response, ten claims (1-3, 10-11, and 16-20) are amended. Claims 1-20 are presented for examination.

I. Claim Objections

Claim 11 is amended to correct a typographical error (“graphical illustrate” is changed to “graphically illustrate”).

II. Claim Rejections: 35 USC § 103(a)

Claims 1-3, 6-18, and 20 are rejected under 35 USC § 103(a) as being unpatentable over “Pixel Bar Charts: A New Technique for Visualizing Large Multi-Attribute Data Sets without Aggregation” (Keim) in view of “Tree Visualization with Treemaps: a 2-D Space-Filling Approach” (Shneiderman) and “Hierarchical Pixel Bar Charts” (Keim-2002). Claims 4-5 and 19 are rejected under 35 USC § 103(a) as being unpatentable over Keim in view of Shneiderman, Keim-2002 and USPN 5,893,090 (Friedman). These rejections are traversed.

To establish a *prima facie case* of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. *See M.P.E.P. § 2143.* For at least the following reasons, Applicants assert that the rejection does not satisfy these criteria.

The independent claims recite numerous recitations that are not taught or suggested in Keim in view of Shneiderman, Keim-2002, and Friedman. Claim 1 is selected for discussion.

Claim 1 recites deriving a multi-level dynamic hierarchical structure based on drilldown sequences input from a user. These drilldown sequences derive two different elements: (1) a multi-pixel bar chart that simultaneously displays numerical values of aggregated data for plural bars, and (2) a graphical illustration that displays a comparison of the numerical values of aggregated data.

The recitations of claim 1 are illustrated in exemplary embodiments. By way of example, Figs. 1-3 of Applicants' specification show various drilldown sequences. Fig. 5 then shows another drilldown sequence from Fig. 3. Notice that Figs. 3 and 5 include numerical values of aggregated data (shown at the top of the bars as "Total \$ Amount" and "# Transactions (x 1000)"). Fig. 6 shows a graphical illustration as a comparison of the numerical values of aggregated data from Fig. 5. By way of example, Fig. 6 shows comparisons of regions (JP, US, UK, etc.) of standard deviations for sales.

The art of record does not teach or suggest all the elements of the independent claims. Section 3.3 of Keim-2002 teaches that hierarchical pixel bar charts allow a user to select a bar of a pixel bar chart to get the bar expanded. This concept is illustrated in Fig. 7 of Keim-2002. As shown, the third bar in Fig. 7(a) is expanded through drilldown to a 2nd level and a 3rd level. Keim-2002 teaches drilling down from a first pixel bar to establish other pixel bars. In other words, Keim-2002 shows that a user can expand one pixel bar in a first chart to plural pixel bars in a second chart. Importantly, nowhere does Keim-2002 teach or even suggest drilling down to derive a pixel bar chart that "displays numerical values of aggregated data for plural bars." The pixel bar charts in Keim-2002 never even display numerical values of aggregated data. Where are the displayed numerical values in Keim-2002? They do not exist. Further, nowhere does Keim-2002 teach or even suggest drilling down to derive "a graphical illustration that displays a comparison of the numerical values of aggregated data." Again, Keim-2002 merely teaches that a user can expand one pixel bar in a first chart to plural pixel bars in a second chart.

Keim, Shneiderman, and Friedman include at least the deficiencies noted in connection with Keim-2002. Thus, for at least these reasons, the independent claims and their dependent claims are allowable over the art of record.

CONCLUSION

In view of the above, Applicants believe that all pending claims are in condition for allowance. Allowance of these claims is respectfully requested.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. 832-236-5529. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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